CONSTRUAL LEVEL AND INGROUP BIAS

Abstract

The causal relationship between mental construal level and ingroup bias remains elusive. This paper uncovers a boundary condition and a mechanism underlying the relationship. We predict and find support for our hypotheses in four experiments conducted in East Asian and Western cultures. Data showed that a high- (vs. low-) level construal activated state belongingness, but had no effect on state rejection, state self-esteem, positive emotion, or negative emotion in participants from Korea (Experiment 1) and Australia (Experiment 3). Moreover, a high- (vs. low-) level construal triggered greater ingroup bias for Koreans (Experiment 2) and Australians (Experiment 3) primed with a relational self, but not for those primed with an independent self. This construal level effect on ingroup bias was eliminated when belongingness was primed at both a high- and a low-level construal; instead, relationals under a low-level construal were more ingroup-biased when they were primed with a belongingness (vs. baseline) condition (Experiment 4). These findings highlight that the relational self is a boundary condition for the construal level-ingroup bias link; belongingness explains the relationship.

Keywords: construal level, ingroup bias, relational self, belongingness, social acceptance

Human beings tend to view the group to which they belong as deserving higher status or more resources than groups to which they do not belong—this is known as "ingroup bias" (Tajfel & Turner, 1986). Ingroup bias impedes cooperation and sharing of resources across groups for the common good, and can exacerbate intergroup conflict (Messick & Mackie, 1989). Thus the triggers, underlying mechanisms, and mitigating interventions for ingroup bias have long been examined from multiple theoretical perspectives—including cognitive frameworks (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), motivational conceptualizations (Brewer, 1991; Tajfel & Turner, 1986), affective approaches (Dovidio, Gaertner, Isen, & Lowrance, 1995; Forgas & Fiedler, 1996), and, more recently, self-regulatory and neural accounts (Amodio, 2009; Richeson et al., 2003). However, as ingroup bias is a complex phenomenon, our understanding of the activating or dampening conditions and underlying mechanisms related to it remain incomplete, despite the long history of intergroup research in general, and specific studies on ingroup bias.

This paper adds to the literature by taking a novel approach to ingroup bias: examining it through the lens of construal level. Construal level theory (Trope & Liberman, 2003, 2010), action identification theory (Vallacher & Wegner, 1987, 1989), and the global/local processing model (Förster, 2012) claim that the mental representation of an event as high-level (abstract, essential, ends-focused) or low-level (concrete, incidental, means-focused) is associated with multiple individual psychological constructs—self-control (Fujita, Trope, Liberman, & Levin-Sagi, 2006), self-affirmation (Wakslak & Trope, 2009), task motivation (Lee, Lee, & Kern, 2011), procrastination (McCrea, Liberman, Trope, & Sherman, 2008), creativity (Förster, Friedman, & Liberman, 2004), power (Smith & Trope, 2006), and morality (Eyal, Liberman, & Trope, 2008), to name just a few. Recent research has also begun to explicate the relationship between construal level and group judgment (Ledgerwood & Callahan, 2012; Luguri, Napier, & Dovidio, 2012; Milkman, Akinola, & Chugh, 2012). These limited findings, however, offer equivocal evidence for the construal level-

ingroup bias relationship. Because the mental construal in question involves a fairly simple intrapersonal cognitive representation (as either high- or low-level) of an event or an action—even those unrelated to the ingroup or outgroup—under one's control, it may generate expedient and powerful interventions to mitigate ingroup bias. However, we have yet to understand exactly how construal level influences ingroup bias. This paper fills this void in the literature.

Our work is unique in that it uses the relational self (a boundary condition) and belongingness (a mechanism) to untangle psychological processes underlying the construal level-ingroup bias link. We develop our first hypothesis that construal level relates to a fundamental human motivation (belongingness) for most people. Then we develop our second hypothesis that construal level relates to ingroup bias especially for those who prefer an ingroup that features a sense of belongingness and close bonds among members (the relational self vs. the independent self). Although self-relevance or egocentric distance is a key assumption of construal level theory (Liberman & Förster, 2009), the role of different forms of the self has rarely been incorporated directly into construal level research (c.f., Lee et al., 2011). Moreover, the self plays an integral role in the judgment of an ingroup (Gramzow, Gaertner, & Sedikides, 2001). The current research examines how distinct forms of the self moderate the relationship between construal level and ingroup bias. We test our hypotheses in four experiments conducted in East Asian and Western cultures.

Construal Level and Group Judgment

Construal level theory (Trope & Liberman, 2003, 2010), action identification theory (Vallacher & Wegner, 1987, 1989), and the global/local processing model (Förster, 2012) propose that to gauge and prove the effectiveness of their actions, people normally assess their behavior using mental representations in a hierarchical arrangement. High-level mental representations are related to the reason, goal, and significance of an action (i.e., the "why" aspect). High-level construals highlight goal-relevant, primary, or ends-focused features, and considerations of desirability (e.g.,

"Generate new knowledge"). In contrast, low-level mental representations are related to the means and concreteness of an action (i.e., the "how" aspect). Low-level construals accentuate goal-irrelevant, peripheral or means-focused features, and considerations of feasibility (e.g., "Collect and analyze data"). Moreover, high-level construals are related to psychological distance in terms of temporal, spatial, and social distance, along with hypotheticality, whereas low-level construals are related to psychological nearness (Trope & Liberman, 2003, 2010).

Recent research has suggested that construal level may relate to group prejudice and discrimination, though the results to date are ambiguous. On one hand, high-level construals appear to decrease discrimination. Because high-level construals involve applying moral principles to judge others' actions (Eyal et al., 2008) and the value of their behaviors (Torelli & Kaikati, 2009), high- (vs. low-) level construals are more likely to highlight the value of fairness in American society, thereby generating more positive emotions toward non-normative groups (e.g., gay individuals, Muslims, and atheists) and mitigate discriminatory behaviors among political conservatives (Luguri et al., 2012). This study, then, hints that high-level construals may decrease ingroup bias.

Other studies, however, suggest that high-level construals may increase ingroup bias. Specifically, high-level construals increase stereotyping of the self and groups (McCrea, Wieber, & Myers, 2012). Because cognitive, rather than emotional, thinking is more related to stereotypes, and distance reduces attention to emotional features of an event (Williams & Bargh, 2008), the consideration of high-level distant future events increases stereotype-based discrimination (Milkman et al., 2012). Moreover, when people think about the distant future or are led to think abstractly, they tend to conform to group opinion and behave consistently with group norms. That is, as psychological distance and abstractness increase, people are more likely to behave appropriately and consistently across various situations based on their moral and ideological values; thus, high-level construals motivate people to align their values and behaviors with group norms, increasing

conformity to these (Ledgerwood & Callahan, 2012). As such, these studies imply that high-level construals may increase ingroup bias.

As highlighted by the conflicting findings above, the link between construal level and group judgment remains elusive. To better clarify the relationship, our research examines a boundary condition for the construal level-ingroup bias link and its underlying mechanism. We propose that high- (vs. low-) level construals relate to a fundamental, survival-focused motivation of human beings (i.e., belongingness), and that the relationship between construal level and ingroup bias is more pronounced for those who value belongingness and close bonds among ingroup members more strongly (i.e., the relational self).

Construal Level and Belongingness

All actions or events are represented mentally, from a high to a low level: When a behavior is related to goals, mental representations for the behavior are construed at a high level; in contrast, when a behavior is unrelated to goals, associated mental representations are construed at a low level (Vallacher & Wegner, 1987, 1989). We argue that because all actions or events involve high- or low-level mental representations, depending on their goal relevance or irrelevance, a fundamental human motivation—belongingness, or social acceptance—is more likely to involve high- than low-level construals. The need to belong is one of the most fundamental human motivations to form interpersonal bonds (Baumeister & Leary, 1995). Belongingness fulfills human survival: Having a minimum level of positive and lasting relationships offers individuals a major advantage, because being part of a cooperative group allows for sharing of resources across people, as opposed to dependence only on one's own resources. As our ancestors evolved in groups, people enjoyed the tangible and intangible rewards associated with social acceptance (DeWall & Bushman, 2011). The need to belong is ubiquitous across cultures, serving as a major driving psychological force. Moreover, belongingness may be satisfied by social bonds with any other human being. Once a

minimum level of belongingness is satisfied, the need to belong is satiated and the motivation related to it diminishes (Baumeister & Leary, 1995).

Our view is that the fundamental need to belong is satisfied under high- (vs. low-) level construals, which highlight primary, goal-relevant, and desirability-related features of an action: We propose that high- (vs. low-) level construals are more likely to increase a sense of belongingness. Specifically, desirability considerations, reflecting the value of a goal, are more prominent under high-level construals; whereas feasibility considerations, reflecting the difficulty of achieving the goal, are more prominent under low-level construals (Liberman & Trope, 1998; Trope & Liberman, 2003; Vallacher & Wegner, 1987, 1989). Therefore, as people focus on high-level thinking, they are likely to focus on the desirability of their belongingness goal, or the idea of being socially accepted. In contrast, as people focus on low-level thinking, they are likely to attend to multiple environmental influences or contingencies (e.g., various relationship partners or social settings) that may lead to social acceptance or exclusion, thus facilitating or impeding fulfillment of their belongingness goal. Moreover, because high- (vs. low-) level construals activate superordinate representations of objects or actions (Trope & Liberman, 2003, 2010) and less self-focused and more other-focused self-concept (Förster, 2012), people under high- (vs. low-) level construals are more likely to focus on the larger society in which they exist than on themselves, and thus to feel a greater sense of belongingness with others. We hypothesize, then, that a high- (vs. low-) level construal is more likely to activate state belongingness: People under high- (vs. low-) level construals are more likely to feel socially accepted.

The construal level literature offers evidence supporting our hypothesis. For example, high- (vs. low-) level construals were found to generate greater group identification (McCrea et al., 2012); group identification has been shown to operate as a social resource that fulfills human beings' belongingness goal (Knowles & Gardner, 2008). When people represented actions at a high- (vs.

low-) level, they perceived greater similarities between the self and others, and showed more empathy and a greater ability to take others' perspectives (Levy, Freitas, & Salovey, 2002); similarity, empathy and perspective-taking greatly facilitate belongingness and social bonds with others (Galinsky, Ku, & Wang, 2005). Moreover, people observed larger segments of actions and grouped objects into fewer and broader categories as the actions and objects were framed at a high-level construal (Liberman, Sagristano, & Trope, 2002). Extant research is consistent with our hypothesis that a high- (vs. low-) level construal is more related to belongingness or social acceptance.

Thus, our first hypothesis is that priming a high- (vs. low-) level construal is more likely to activate state belongingness. We argue further that belongingness is a mechanism explaining the relationship between construal level and ingroup bias for some people. Although all human beings are motivated to seek belongingness (Baumeister & Leary, 1995), belongingness may not trigger ingroup bias for everyone. Specifically, we propose that if construal level relates to belongingness, construal level is likely to trigger ingroup bias for those who prefer an ingroup that has belongingness and close bonds among members (i.e., the relational self) and is unlikely to induce ingroup bias for those who are self-reliant and whose self-concept is unrelated to groups (i.e., the independent self).

The Distinct Self, Construal Level, and Ingroup Bias

The relational self defines self-identity in terms of close relationships or intimate social circles (e.g., family, friends, significant others)—for example, "me when I am with my sister" (Andersen & Chen, 2002; Brewer & Gardner, 1996; Cross, Bacon, & Morris, 2000). For relationals, listening to close others' advice and maintaining harmony in relationships are critical. Also, relationals consider interdependence and role responsibility important factors for their achievements (Andersen & Chen, 2002; Chen, Boucher, & Tapias, 2006). Relationals use a significant-other representation of a past relationship—those with both positive and negative significant others—when

interacting with a stranger (Andersen & Chen, 2002). Unlike belongingness, which does not specify a particular individual or a particular relationship (Baumeister & Leary, 1995), the relational self specifies frequent and emotionally meaningful interactions with a limited number of close others in a particular context (Chen et al., 2006).

The relational self was originally researched in terms of dyadic relationships between the self and significant others (Andersen & Chen, 2002; Chen et al., 2006). Recent research, however, conceptualizes the relational self in group settings as well (Brewer & Chen, 2007), and has validated its usefulness in predicting intergroup allocation behavior (Lee, Adair, Mannix, & Kim, 2012). To the extent that the relational self prefers meaningful interaction with a limited number of close others (Chen et al., 2006), relationals prefer a more narrowly defined ingroup that features intimate bonds and belongingness within a small circle of friends or partners (Brewer & Chen, 2007; Brewer & Gardner, 1996; Lee et al., 2012).

In contrast, the independent self reflects a self-concept based on an individual's internal characteristics, such as traits, personality, or attributes—for example, "I am artistic" or "I am outgoing." Independents' identity is self-reliant, and separate from others or groups. Independents are motivated to confirm positive, self-defining attributes of the self, such as competence and efficacy. For independents, agency is experienced as an effort to express one's internal need, rights, and capacities, and to withstand undue social pressure (Markus & Kitayama, 1991). Independents are attuned to pursuing self-advancement or aspiration, rather than fulfilling responsibility or duties (Lee, Aaker, & Gardner, 2000). Independents place less importance on group membership (Markus & Kitayama, 1991; Triandis, 1989), and are less likely to distinguish an ingroup from an outgroup (Triandis, 1989), and show weak ingroup bias (Chen, Brockner, & Katz, 1998).

Although the relational self is generally more dominant among East Asians and the independent self is more dominant among European Americans (Brewer & Chen, 2007; Markus &

Kitayama, 1991), recent perspectives in cultural psychology view culture as a constellation of domain-specific schemas in individuals' cognitive structures. As such, a culturally less dominant orientation can be temporarily primed by situational demands (Gardner, Gabriel, & Lee, 1999; Hong, Morris, Chiu, & Benet-Martínez, 2000). Thus, the self is a fairly malleable construct, and the relational and independent selves can coexist within the same individual, regardless of his or her cultural origin (Sawang, Oei, & Goh, 2006). The apparent differences in the self that exist between different cultures, as well as those between members of the same culture, are thought simply to reflect which of the two selves is made more or less dominant in memory by situational demands at a given time. Thus, the relational or independent self can be both trait-like and state-like (Trafimow, Triandis, & Goto, 1991).

Our first hypothesis is that both relationals and independents—regardless of cultural background—are motivated to seek belongingness, as the need to belong is ubiquitous across cultures and thus both types of individuals are more likely to feel state belongingness under high- (vs. low-) level construals. The second hypothesis is that the relationship between high- (vs. low-) level construals and ingroup bias, however, will be observed for relationals only, not independents. Specifically, unlike belongingness, which can be established with any individual or through any relationship in a broader sense (Baumeister & Leary, 1995), the relational self focuses on a particular significant other or relationship in a specific context (Chen et al., 2006). With respect to group relations, too, relationals have been demonstrated to focus more on their own group than a superordinate group (Lee et al., 2012). Thus, relationals are more likely to direct belongingness activated under high-level construals toward their ingroup only—not toward more inclusive general others—and thus show greater ingroup bias under high- (vs. low-) level construals. In contrast, because independents are self-reliant and separate from groups (Markus & Kitayama, 1991; Triandis, 1989), a sense of belongingness activated by high-level construals will not necessarily trigger

ingroup bias.

To test our hypotheses, we conducted four experiments in Korea (Experiments 1, 2, and 4) and Australia (Experiment 3). Experiment 1 demonstrates the relationship between construal level and belongingness in Korea. Experiment 2 examines associations among the relational self, construal level, and ingroup bias in Korea. Experiment 3 replicates the findings of Experiments 1 and 2 in Australia. Finally, Experiment 4 tests the belongingness mechanism using the moderation approach: We manipulate our proposed mechanism directly.

Experiment 1

In this study, we initially tested the first hypothesis: that regardless of their relational or independent self status, people primed with a high- (vs. low-) level construal are more likely to feel socially accepted. We conducted Experiment 1 in Korea. Korean culture nurtures a more relational orientation (Lee, Brett, & Park, 2012). Cultural psychologists have increasingly recommended that researchers experimentally prime, rather than non-experimentally measure, the psychological dimension under question within a culture (Heine, Lehman, Peng, & Greenholtz, 2002; Kitayama, 2002). Korean culture enables a stringent test for the causal effect of construal level on state belongingness above and beyond the preexisting relational orientation within the culture. The experiment used a 2 (self prime: relational vs. independent) x 2 (construal level prime: high vs. low) between-participant full-factorial design. Participants were randomly assigned to one of the four conditions.

Participants and Procedures

Eighty-nine undergraduate students at a Korean university (16.9% females; mean age 21.94 years) participated in this study in exchange for a coffee coupon (approximately US $5.00 in value). Gender did not influence our key variables. All participants' first language was Korean. Participants responded to items related to the self prime, construal level prime, state belongingness, state

rejection, state self-esteem, and positive and negative emotion at the moment, in that order.

Measures

The self prime. Half of the participants were randomly assigned to the *relational self* condition and read the following instructions (Brewer & Gardner, 1996; Lee et al., 2012):

> People often define themselves in terms of their interpersonal relationships with close friends, family, or significant others. In the blank lines below, please list up your relationships with your close friends, family members, significant others, or anyone you think close and important. For example, who are you and your close other? What do you and your close other do together? (e.g., We are high school friends. We have been dating for a year. We are strong family. We went to movie last weekend).
>
> Then, the ten blank sentences began with the pronoun "We" (i.e., We _____).

The other half of the participants were randomly assigned to the *independent self* condition and read the following instructions (Brewer & Gardner, 1996; Gardner et al., 1999):

> People often define themselves in terms of their unique characteristics, personalities, or traits. In the blank lines below, please list up your unique characteristics, personality, traits, attitudes, hobbies, or ambitions. For example, who are you? What do you do? (e.g., I like photography. I am outgoing. I am tall. I am creative.).
>
> Then, the ten blank sentences began with the pronoun "I" (i.e., I _____).

Construal level prime. Half of the participants were randomly assigned to the *high level construal* condition and responded to the following instructions (Fujita et al., 2006):

> Please answer the questions below. The example is: You eat an apple. Apple is an example of _____ (Answer: Fruit); You eat pasta. Pasta is an example of _____; You listen to jazz. Jazz is an example of _____; You learn ballet. Ballet is an example of _____; You buy a desk. A desk is an example of _____; You buy a potato. A potato is an example of

_____; You get on the bus. A bus is an example of _____; You read a magazine. A magazine is an example of _____; You wear swimming suit. A swimming suit is an example of _____.

The remaining half of the participants were randomly assigned to the condition of *low level construal*, with the following instructions (Fujita et al., 2006):

Please answer the questions below. The example is: You eat fruit. Examples of fruit are _____ (Answer: apple, orange, banana, grape); You eat Italian food. An example of Italian food is _____; You listen to music. An example of music is _____; You learn dancing. An example of dance is _____; You buy furniture. An example of furniture is _____; You buy vegetable. An example of vegetable is _____; You use the transportation. An example of transportation is _____; You read something to read. An example of readings is _____; You wear some clothes. An example of clothes is _____."

State belongingness. We adapted items and response scales from prior research (Leary, Tambor, Terdal, & Downs, 1995). Leary et al. used bipolar scales with one end measuring social inclusion and the other end measuring social exclusion (e.g., welcome-avoided, included-excluded). Because our primary interest was social inclusion, we adapted the response scale to a 7-point Likert type scale focusing on social inclusion. Participants indicated to what degree they felt 'welcomed' and 'included' at the moment, on a 1 (*not at all*) to 7 (*very much*) scale ($r = .54$, $p < .001$).

State rejection. To examine whether high- (vs. low-) level construals increase the feeling of social inclusion (as we argue they do) or decrease the feeling of social exclusion, we also measured state rejection. Like the state belongingness measure, we adapted items and response scales from Leary et al. (1995). On a 1 (*not at all*) to 7 (*very much*) scale, participants indicated to what degree they felt 'socially undesirable,' 'rejected,' 'avoided,' 'excluded,' and 'worried about other people's disapproval of them' ($\alpha = .83$).

State self-esteem. The sociometer model (Leary et al., 1995) proposes that social inclusion boosts state self-esteem. To examine whether the construal level effect is unique to belongingness or co-occurs with self-esteem, participants responded to the following measures of state self-esteem (McFarland & Ross, 1982): 'I feel confident about my abilities,' 'I feel concerned about the impression I am making' (reverse-coded), 'I feel frustrated or rattled about my performance' (reverse-coded), 'I feel as smart as others,' 'I feel confident that I understand things,' and 'I feel inferior to others at this moment' (reverse-coded) ($\alpha = .82$).

Emotion. To the extent that socially included people tend to feel more positive and less negative emotion (Baumeister & Leary, 1995), another alternate explanation is that high- (vs. low-) level construals relate to more positive and less negative emotion. To examine whether the construal level effect on belongingness is independent of emotion, participants reported how they felt at the moment using the Positive and Negative Affect Scale ($\alpha = .88$ for positive emotion items; $\alpha = .87$ for negative emotion items), using a 1 (*not at all*) to 7 (*very much*) scale (Watson, Clark, & Tellegen, 1988).

Results

We hypothesized that a high-level construal would generate greater state belongingness than a low-level construal, regardless of the type of self primed. A 2 (self prime: relational vs. independent) x 2 (construal level prime: high vs. low) ANOVA on state belongingness showed that the main effect of the self prime was not significant ($p > .90$). As predicted, however, the main effect of construal level prime was significant, $F(1, 85) = 4.35$, $p = .04$, $\eta_p^2 = .05$: Koreans primed with a high-level construal felt more socially included ($M = 5.10$, $SD = 1.03$) than those primed with a low-level construal ($M = 4.63$, $SD = 1.07$). The self x construal level 2-way interaction was non-significant ($p > .90$).

Next, we examined the alternate explanations based on state rejection, state self-esteem, and positive and negative emotion. Correlation data showed that state belongingness was positively related to state self-esteem ($r = .33$, $p < .01$) and positive emotion ($r = .62$, $p < .001$), and inversely related to state rejection ($r = -.40$, $p < .001$) and negative emotion ($r = -.29$, $p < .01$). The construal level difference, however, was unobserved for state rejection ($p > .20$), state self-esteem ($p > .50$), positive emotion ($p > .50$), and negative emotion ($p > .80$). The main effect of the self prime (p's $> .10$) and the self x construal level 2-way interaction (p's $> .17$) were not significant for each of these alternate variables. Thus, the construal level effect on state belongingness cannot be attributed to state rejection, state self-esteem, or positive and negative emotion.

Discussion

Our findings for Experiment 1 provided initial causal evidence for our first hypothesis that priming a high- (vs. low-) level construal activated greater state belongingness regardless of the distinct type of self. To the extent that belongingness is a pan-cultural, basic human motive, both Koreans primed with a state-like relational self and those primed with a state-like independent self felt a greater sense of social acceptance under a high- (vs. low-) level construal. This construal level effect on belongingness is striking because simply thinking about high- (vs. low-) level mental representations of non-social objects (e.g., pasta, jazz, ballet, desk, potato) led participants to feel more socially included.

For Experiment 2, having established the causal link between construal level and belongingness, we test our second hypothesis for the construal level-ingroup bias link. As in Experiment 1, we seek to garner strong causal evidence for our second hypothesis in Korea, where ingroup bias is generally greater than in Western cultures (Chen et al., 1998; Markus & Kitayama, 1991; Triandis, 1989); therefore, high-level construals may or may not boost relational Koreans' ingroup bias beyond a baseline level.

Experiment 2

In this experiment, we test our second hypothesis regarding the association among the relational self, construal level, and ingroup bias using minimal groups (i.e., the dormitory in which participants live) in Korea. We added a baseline condition beside high- and low-level construals. The prediction is that Koreans primed with a state-like relational self are more likely to be ingroup-biased under a high-level construal than under a baseline condition. We expect that the construal level effect on ingroup bias would be eliminated for Koreans primed with a state-like independent self. The experiment used a 2 (self prime: relational vs. independent) x 3 (construal level prime: high vs. low vs. baseline) x 2 (group judgment: ingroup vs. outgroup) design, with the first two as between-participant factors and the last as a within-participant factor.

Participants and Procedures

Eighty-one undergraduate students (27.16% females; mean age 21.78 years) at a Korean university participated in this experiment. Most undergraduates at the university lived in either the dormitory near the university dining center (Dining Dorm) or one located in West Campus (West Dorm). We recruited participants only from among those living in these dorms. All participants' first language was Korean. Gender was unrelated to our key variables. Participants responded to the self prime, the construal level prime, and measures of positive/negative emotion, state self-esteem, social distance and judgment of the ingroup leader and outgroup leader, in that order.

Measures

We relied on the self priming method used in Experiment 1.

Construal level prime. Experiment 2 relied on previous research (Freitas, Gollwitzer, & Trope, 2004) to prime participants to think about their personal actions in high-level "why" or low-level "how" aspects. One third of the participants were randomly assigned to a *high-level construal* prime and read the following instructions:

For everything human beings do, there always is a reason why you do it. For example, you are jogging. Why are you doing this? Perhaps to get fit. Research suggests that engaging in thought exercises like that above, in which one thinks about how one's actions relate to one's ultimate life goals, can improve people's life satisfaction. This thought exercise is intended to focus your attention on why you do the things you do. For this thought exercise, please consider the following activity: 'Taking courses this semester.' In the blank lines provided below, please list up five reasons for why you are taking courses this semester.

Another third of the participants were randomly assigned to a *low-level construal* prime and read the following instructions:

For everything human beings do, there always is a process of how you do it. For example, how are you educated? By satisfying course requirements. Research suggests that engaging in thought exercises like that above, in which one thinks about how one's ultimate life goals can be expressed through specific actions, can improve people's life satisfaction. This thought exercise is intended to focus your attention on how you do the things you do. For this thought exercise, please consider the following activity: 'Taking courses this semester.' In the blank lines provided below, please list up five ways for how you are taking courses this semester.

The remaining third of the participants were randomly assigned to a baseline condition and asked to list five things they do in a normal day.

Judgment of ingroup/outgroup leaders. We adapted previous research regarding hiring discrimination (Uhlmann & Cohen, 2007) to leader selection. Participants were asked to imagine they were participating in student group activities at the university. The student group in question was to select a leader. Candidates for the leadership were two students: Candidate A was living in West Dorm and Candidate B was living in Dining Dorm. Participants indicated the extent to which

each candidate 'would be successful as a leader' and 'should be selected as a leader,' on a 1 (*not at all*) to 7 (*very much*) scale. At the end of the survey, participants indicated which dorm (West Dorm or Dining Dorm) was their residence. We matched the dorm participants lived in with their judgments of Candidate A (West Dorm) and Candidate B (Dining Dorm) to measure their judgments of ingroup (living in the same dorm) and outgroup (living in the other dorm) leader candidates. The reliability of the two items regarding the ingroup leader candidate was $r = .78$, $p < .001$, and the reliability of the two items regarding the outgroup leader candidate was $r = .66$, $p < .001$.

State self-esteem and emotion. The intergroup literature has documented that self-esteem (Tajfel & Turner, 1986) and emotion (Dovidio et al., 1995; Forgas & Fiedler, 1996; Lount, 2010) affect ingroup bias. A plausible explanation is that relationals—who desire close relationships—may feel more positive under low-level social closeness and feel more negative under high-level social distance conditions. Thus such emotions, rather than belongingness (our explanatory variable), might account for our results regarding the association among the relational self, construal level, and ingroup bias. Experiment 2 measured these alternate variables together with ingroup bias, to rule out more directly the alternate explanations and thus garner more conclusive evidence for our hypothesis. For state self-esteem and emotion, we relied on the same measures used in Experiment 1 ($\alpha = .71$ for the state self-esteem scale; $\alpha = .88$ for the positive emotion scale; $\alpha = .85$ for the negative emotion scale).

Social distance. High-level construals are related to greater psychological distance (Trope & Liberman, 2003, 2010). Relevant to our research, high- (vs. low-) level construals have been found to produce a perception of social distance by decreasing familiarity and allocating fewer resources to another person (Stephan, Liberman, & Trope, 2010). In contrast, when interpersonal similarity increases, people are shown to judge others at a low level, based on subordinate and secondary

features (Liviatan, Trope, & Liberman, 2008). Another alternative account, therefore, is that relationals might feel greater social distance from their ingroup under high- (vs. low-) level construals; therefore, they are more ingroup-biased as a means to reduce psychological distance from their ingroup under high-level construals. To rule out this explanation, we measured social distance from the ingroup. Following previous research (Bar-Anan, Liberman, & Trope, 2006; Stephan et al., 2010), we asked participants to indicate how familiar Candidate A and Candidate B, respectively, seemed to be, on a scale ranging from 1 (*not at all familiar*) to 7 (*very familiar*).

Results

We predicted that Koreans primed with a state-like relational self would be more ingroup-biased under a high-level construal than a baseline condition. A 2 (self prime: relational vs. independent) x 3 (construal level prime: high vs. low vs. baseline) x 2 (group judgment: ingroup leader vs. outgroup leader) repeated-measure ANOVA (first two variables as between-participant; last one as within-participant) showed only a significant 3-way interaction for self x construal level x group judgment, $F(2, 75) = 4.61$, $p < .02$, $\eta_p^2 = .11$. Subsequent planned comparisons for the ingroup leader judgment showed that as predicted, Koreans primed with a state-like relational self evaluated the ingroup leader more favorably under a high-level construal ($M = 4.53$, $SD = 1.42$) than a baseline condition ($M = 3.87$, $SD = .69$), $F(1, 75) = 4.55$, $p < .04$. No other mean-comparisons were significant. Although relationals were more ingroup-biased under a high- than a low-level construal ($M = 4.13$, $SD = .61$), the difference was not significant ($p > .20$). Relationals also showed similar levels of bias under a low-level construal and a baseline condition ($p = .40$). Subsequent planned comparisons for the outgroup leader judgment showed no significant mean-comparisons. All together, these data illustrate that the construal level effect on ingroup bias for relationals appears to be driven by ingroup, rather than outgroup, judgments.

Alternative explanations. A 2 (self prime) x 3 (construal level prime) ANOVA showed no

significant effects for state self-esteem (p's > .20), positive emotion (p's > .60), and negative emotion (p's > .12), thus replicating Experiment 1's findings. With respect to social distance, a 2 (self prime) x 3 (construal level prime) x 2 (familiarity with ingroup vs. outgroup leader) repeated-measure ANOVA showed only a significant main effect of group leader familiarity, $F(1, 75) = 14.50$, $p < .001$, $\eta_p^2 = .16$. Not surprisingly, participants felt more familiar with the ingroup leader candidate (M = 4.38, SD = 1.26) than the outgroup leader candidate (M = 3.86, SD = 1.17). No other effects reached significance.

Discussion

Experiment 2 demonstrated causal evidence for our second hypothesis regarding the association among the relational self, construal level, and ingroup bias in Korea. Our novel finding is that Koreans' strong ingroup bias is elicited by the relational self under a specific condition: Relational, but not independent, Koreans asked to think about *why* they perform a particular activity unrelated to groups (i.e., why they take academic courses) evaluated their ingroup leader more favorably than those in a baseline condition. Having demonstrated causal evidence for our belongingness (Experiment 1) and ingroup bias (Experiment 2) hypotheses in Korean culture, where a relational orientation is dominant, next we seek to garner converging evidence for both hypotheses in a Western culture, where an independence orientation tends to dominate.

Experiment 3

The purpose of Experiment 3 is to replicate the findings of Experiments 1 and 2 in a Western culture (Australia). Unlike Experiments 1 and 2, Experiment 3 examines the belongingness hypothesis and the ingroup bias hypothesis within the same study. Because Experiment 2 showed no difference between the low-level construal and the baseline condition, Experiment 3 excluded the baseline condition, to simplify our design. The experiment used a 2 (self prime: relational vs. independent) x 2 (construal level prime: high vs. low) between-participant design. Participants were

randomly assigned to one of the four conditions.

Participants and Procedures

Participants majoring in psychology or business at an Australian university were recruited for a social perception study—which was actually a study of ingroup bias regarding psychology or business majors. One-hundred and two students at an Australian university who indicated English as their first language (67.6% females; mean age 24.40 years) participated either in a paper version (N = 41) or an online version (N = 61) of the survey for extra course credits. Because type of survey completed (paper vs. online) was correlated with our dependent variables ($p < .05$), we controlled for the version in all analyses. Gender was unrelated to our key variables. Participants responded to the self prime, the construal level prime, and measures of state belongingness, state rejection, state self-esteem, positive/negative emotion, social distance, and intergroup status, in that order.

Measures

We used the same priming methods of the self and construal level used in Experiment 1. We also relied on the same measures as in Experiment 1 to assess state belongingness, state rejection, state self-esteem, and positive/negative emotion. All measures were reliable: state belongingness ($r = .71$, $p <. 001$), state rejection ($\alpha = .80$), state self-esteem ($\alpha = .74$), positive emotion ($\alpha = .89$), and negative emotion ($\alpha = .90$).

Social distance. Participants were told that the researchers were interested in how people feel about the group of students majoring in the same subject as they were. Participants were first asked to indicate the subject of their major (one blank line). Next, they were asked to respond to the measure of social distance from their ingroup. Adopting prior research (Bar-Anan et al., 2006; Stephan et al., 2010), we asked participants to indicate how distant, familiar (reverse-coded), and close (reverse-coded) they feel to the group of students majoring in the same subject as they were, on

a scale ranging from 1 (*not at all*) to 7 (*very much*) (α = .94). Higher scores reflected more social distance.

Intergroup status. We measured ingroup bias in terms of intergroup status (e.g., Pickett & Brewer, 2001). Participants indicated which group (psychology major or business major) they believed to have higher status. We counterbalanced the majors noted in the highest and lowest anchors on the response scale. That is, the scale for half of the participants was laid out with points 1 (*business major has higher status than psychology major*), 4 (*equal status*), and 7 (*psychology major has higher status than business major*). The other half of the participants responded to a scale with points 1 (*psychology major has higher status than business major*), 4 (*equal status*), and 7 (*business major has higher status than psychology major*). Similar to the ingroup/outgroup trait judgment, before analyses we matched participants' majors with their responses and recoded the responses so that across all participants higher scores reflected greater ingroup bias (i.e., the ingroup has higher status than the outgroup).

Results

State belongingness. A 2 (self prime: relational vs. independent) x 2 (construal level prime: high vs. low) ANCOVA controlling for survey version (paper vs. online) showed that the main effect of the self was not significant for state belongingness ($p > .70$). More central to our hypothesis (and replicating Experiment 1), the main effect of construal level was significant, $F(1, 97) = 4.31$, $p = .04$, $\eta_p^2 = .04$: As predicted, similar to their Korean counterparts (Experiment 1), Australians primed with a high-level construal felt more socially included ($M = 5.18$, $SD = 1.06$) than Australians primed with a low-level construal ($M = 4.66$, $SD = 1.28$). The self x construal level 2-way interaction was non-significant ($p > .30$). Thus, consistent with the findings in Korea, both Australians primed with a state-like relational self and those primed with a state-like independent self felt more socially

accepted under high- (vs. low-) level construals.

Intergroup status. A 2 (self prime) x 2 (construal level prime) ANCOVA with survey version (paper vs. online) as a covariate showed that neither the main effect of the self ($p > .60$) nor that of the construal level ($p > .70$) was significant. More central to our hypothesis, the self x construal level 2-way interaction was significant, $F(1, 97) = 4.82$, $p = .03$, $\eta_p^2 = .05$. Subsequent planned comparisons showed that as predicted, Australians primed with a state-like relational self under a high-level construal reported that the ingroup had higher status than the outgroup ($M = 4.86$, $SD = 1.39$) than those relationals under a low-level construal ($M = 4.44$, $SD = 1.47$), $F(1, 97) = 3.78$, $p = .055$, $\eta_p^2 = .04$. In contrast, Australians primed with a state-like independent self reported similar levels of intergroup status under a high- and a low-level construal ($p > .19$). Additionally, Australians primed with a state-like relational self were marginally more ingroup-biased ($M = 4.86$, $SD = 1.39$) than those primed with a state-like independent self ($M = 4.28$, $SD = 1.45$) under a high level construal, $F(1, 97) = 3.27$, $p = .074$, $\eta_p^2 = .03$. But there was no difference between relational Australians and independent Australians under a low-level construal ($p = .17$). Thus, our ingroup-bias hypothesis received support when ingroup bias was measured by relative intergroup status.

Alternative explanations. Consistent with the need to belong literature and replicating Experiment 1 in Korea, state belongingness was positively correlated with state self-esteem ($r = .34$, $p < .001$) and positive emotion ($r = .63$, $p < .001$), and inversely correlated with state rejection ($r = -.60$, $p < .001$) and negative emotion ($r = -.42$, $p < .001$) in Australia. State belongingness was also negatively correlated with social distance from the ingroup ($r = -.53$, $p < .001$). We ran a 2 (self prime) x 2 (construal level prime) ANCOVA for state rejection, state self-esteem, positive emotion, negative emotion, and social distance, respectively, controlling for survey version (paper vs. online). The main effect of construal level was non-significant for state rejection ($p > .30$), state self-esteem ($p > .40$), positive emotion ($p = .30$), and negative emotion ($p > .20$), but significant for social

distance from the ingroup, $F(1, 97) = 7.72$, $p < .01$, $\eta_p^2 = .07$: Participants primed with a high-level construal reported less, not more, social distance from the ingroup ($M = 3.30$, $SD = 1.64$) than those primed with a low-level construal ($M = 4.11$, $SD = 1.61$). Correlational data, however, showed that social distance from the ingroup was unrelated to intergroup status ($p > .14$). Thus, our hypothesis-testing results cannot be attributed to relationals reporting greater ingroup status as a means to close psychological distance from their ingroup under high- (vs. low-) level construals. The self x construal level 2-way interaction was not significant for state belongingness, state rejection, state self-esteem, positive/negative emotion, and social distance (p's $> .13$).

Discussion

Experiment 3 further demonstrated support for our hypotheses and replicated in Australia the patterns found in Korea. Like their Korean counterparts (Experiment 1), both relational and independent Australians who engaged in a mental activity of sorting non-social objects at a high level felt more socially included. Moreover, after the sorting activity, relational Australians (like relational Koreans in Experiment 2), displayed more ingroup-biased thinking—specifically, that people majoring in the same subject as they were had higher status than those majoring in a different subject. As in Experiments 1 and 2, these results are striking because the sorting activity ostensibly had nothing to do with the ingroup and outgroup.

Our explanation for the ingroup bias (intergroup status) finding is that high-level mental construals increase state belongingness. As greater belongingness promotes greater ingroup bias for relationals (Brewer & Chen, 2007), relationals should be more ingroup-biased under high- (vs. low-) level construals. In Experiment 4, we use a moderation approach to test mechanisms (Spencer, Zanna, & Fong, 2005; Stone-Romero & Rosopa, 2008) by directly manipulating our proposed mechanism (belongingness), thus garnering evidence for it. Mediation analyses with *non-manipulated* mediators are subject to biased estimates of mediation effects; thus, social psychologists

have recommended using an experimental, moderation approach to test mediations (Spencer et al., 2005; Stone-Romero & Rosopa, 2008). In Experiment 4, we rely on the moderation approach to test our belongingness mechanism.

Experiment 4

We conducted Experiment 4 to test the belongingness mechanism underlying the relationship among the relational self, construal level, and ingroup bias. Using an experimental approach to test mediations (Spencer et al., 2005; Stone-Romero & Rosopa, 2008), we manipulated orthogonally the independent variables (self, construal level) and our proposed mechanism (belongingness). If belongingness is the mechanism driving relationals' greater ingroup bias under high- (vs. low-) level construals, relationals should demonstrate increased bias under low-level construals when they are placed in a belongingness condition. Thus, we hypothesize that within a low-level construal, relationals should be more ingroup-biased under the belongingness (vs. baseline) condition. Within a high-level construal, however, there should be no difference between the belongingness and baseline conditions—because, as shown in Experiments 1 and 3, high-level construals increase state belongingness to begin with, as in the baseline condition. And because the need to belong is associated with a satiation point (Baumeister & Leary, 1995), further belongingness primed at a high-level construal should satiate the belongingness effect. Put another way, within the baseline condition, relationals are more likely to be ingroup-biased under a high- (vs. low-) level construal, replicating Experiments 2 and 3; this pattern, however, should be eliminated within the belongingness condition. The experiment used a 2 (self prime: relational vs. independent) x 2 (belongingness prime vs. baseline) x 2 (construal level prime: high vs. low) between-participant full-factorial design. Participants were randomly assigned to one of the eight conditions.

Participants and Procedures

Two hundred and seven students at a Korean university (30% females; mean age 22.35 years)

participated in this study in exchange for a coffee coupon (approximately US $5.00 in value). There are missing data, especially from those participants who did not complete our main dependent variable, the intergroup allocation measure. We analyzed all available data; the degrees of freedom noted for specific tests in the results reflect missing data. Gender did not influence our key variables. All participants indicated Korean as their native language. Participants first responded to the self prime, the belongingness prime, and the construal level prime, followed by the measures of state rejection, state self-esteem, positive/negative emotion, ingroup bias, and attitudes toward the older generation, in that order.

Measures

We relied on the priming methods of the self and construal level used in Experiment 1.

Belongingness prime. We used an existing method to prime belongingness, or social acceptance (Knowles & Gardner, 2008). Half of the participants were randomly assigned to the belongingness condition and read the following instructions:

> Write about a time in which you felt very accepted in some way, a time that you felt as if you belonged. This acceptance can be interpersonal in nature (e.g., a time in which someone wished to date you or wanted to be your friend) or can be an acceptance by a group (e.g., a time in which you were chosen for a team or included in a clique).

Participants indicated when the specific situation happened (one blank line) and listed thoughts or emotions they felt at the moment (five blank lines). The remaining half of the participants were randomly assigned to the baseline condition and asked to list five things they do in a normal day.

Ingroup bias. We used the intergroup allocation matrices (Tajfel, Billig, Bundy, & Flament, 1971) most commonly used in intergroup research. Tajfel et al. present three distinct ways to assess ingroup bias, with different types of allocation matrices teasing apart conflicting motives for ingroup

bias. Thus, using their method allows us to garner more conclusive evidence of boundary conditions for the construal level-ingroup bias relationship. First, as related to the MD (vs. MIP/MJP) allocations discussed below, participants can show ingroup bias for the purpose of Maximizing Difference between groups, while sacrificing the Maximizing Ingroup Profit and Maximizing Joint Profit motives. Second, in relation to the MD/MIP (vs. MJP) allocation, participants can show ingroup bias for the purpose of Maximizing Difference between groups and Maximizing Ingroup Profit simultaneously, while sacrificing Joint Profit. Third, for the MD/MIP/MJP allocation, participants can show ingroup bias for the purpose of Maximizing intergroup Difference, Ingroup Profit, and Joint Profit simultaneously. We used all three forms of intergroup allocation.

The intergroup category used in Experiment 4 is based on generation: young versus old. Korea's generation gap is one of the country's most prominent social problems, as the numbers of unemployed young adults and senior adults are increasing quickly. Participants were asked to allocate resources for either the young generation's unemployment or the older generation's aging-related issues in Korea. All participants were members of the young generation (ingroup), and asked to allocate resources to their group and the older generation (outgroup). Participants read the following scenario:

> Recently, aging and young adult unemployment are important social issues in this country. The Korean government is discussing resource allocation to resolve these problems. Eight possible allocations across the two issues are presented below. Each allocation has thirteen possible options. Please select one option out of the thirteen that you prefer the most (unit: approximately US $100,000).

As in Tajfel et al. (1971), participants indicated the allocation choice they preferred the most on two matrices of the MD (vs. MIP/MJP) allocation, two matrices of the MD/MIP (vs. MJP) allocation, and four matrices of the MD/MIP/MJP allocation. The eight matrices were presented in

random order.

Attitude toward the older generation. Participants' general attitudes toward the older generation might influence their intergenerational resource allocation. Specifically, our Korean participants might be more respectful and subservient to the older generation, as influenced by Confucianism's emphasis on social hierarchy and respect for more senior societal members (Lee et al., 2012). Moreover, prior research has shown that high-level construals are associated with power (Smith & Trope, 2006). Thus, a plausible explanation is that not belongingness (our explanation of choice) but the placement of value on social hierarchy and/or respect for the older generation might drive Korean participants' intergenerational allocation behavior. Participants indicated how they felt about the older generation on a 7-point scale (1 = *very negatively* to 7 = *very positively*). Additionally, we administered the hierarchy subscale of Schwartz's (1992) value survey: Participants indicated how important each of 'social power,' 'social recognition,' 'authority,' and 'influential' is in their life as a guiding principle, on a 7-point scale (1 = *not at all* to 7 = *very much*) (α = .84).

Results and Discussion

MD (vs. MIP/MJP) allocation. First, we examined ingroup bias on the MD (vs. MIP/MJP) allocation. The main effect of construal level was significant, $F(1, 173) = 4.95$, $p < .03$, $\eta_p^2 = .03$: Participants primed with a high-level construal were more ingroup-biased for the purpose of maximizing the difference between groups' gains—although doing so sacrificed their ingroup gain and joint gain ($M = .36$, $SD = 3.53$)—than were those primed with a low-level construal ($M = -.85$, $SD = 3.33$). No other main effect was significant. Consistent with our prediction, the self x belongingness 2-way interaction was significant, $F(1, 173) = 13.76$, $p < .001$, $\eta_p^2 = .07$. Subsequent planned comparisons showed that participants primed with a state-like relational self were more ingroup-biased, and thus more focused on maximizing the difference between groups' gains under

the belongingness condition (M = 1.17, SD = 3.39) than the baseline condition (M = -1.17, SD = 3.54), $F(1, 173) = 11.68$, $p = .001$, $\eta_p^2 = .06$. Moreover, within the belongingness condition, relationals (vs. independents) were more ingroup-biased for the purpose of maximizing the difference between groups' gains, $F(1, 173) = 9.83$, $p < .01$, $\eta_p^2 = .05$; whereas within the baseline condition, independents (vs. relationals) were more ingroup-biased, $F(1, 173) = 4.38$, $p < .04$, $\eta_p^2 = .03$.

More central to our hypothesis, the self x belongingness 2-way interaction was marginally qualified by construal level, $F(1, 173) = 3.44$, $p < .07$, $\eta_p^2 = .02$. Subsequent planned comparisons showed that as predicted (and replicating Experiments 2 and 3), within the baseline condition, participants primed with a state-like relational self were more ingroup-biased under a high-level construal (M = .28, SD = 3.39) than a low-level construal (M = -2.74, SD = 3.05), $F(1, 173) = 10.04$, $p < .01$, $\eta_p^2 = .06$. As predicted, however, this construal level difference was eliminated within the belongingness condition, $F < 1$. Moreover, consistent with our prediction, within a low-level construal, participants primed with a state-like relational self were more ingroup-biased, seeking to maximize the difference between groups' gains more under the belongingness condition (M = 1.03, SD = 3.07) than the baseline condition, $F(1, 173) = 13.18$, $p < .001$, $\eta_p^2 = .07$. Within a high-level construal, however, the difference between the belongingness and baseline conditions was eliminated ($p > .20$). These results provide evidence for our belongingness mechanism. Thus, our hypotheses were supported in the MD (vs. MIP/MJP) allocation—in which the motive for ingroup bias had to do with increasing intergroup difference (i.e., "winning" versus the other group) while forgoing maximizing ingroup benefit or joint benefit; belongingness accounted for this pattern.

Additionally, within the baseline condition, participants primed with a state-like independent self and a low-level construal were more ingroup-biased for the purpose of maximizing intergroup difference (M = .15, SD = 2.75) than those primed with a state-like relational self and a low-level

construal (M = -2.74, SD = 3.05), $F(1, 173) = 9.52$, $p < .01$, $\eta_p^2 = .05$. This pattern, however, was reversed within the belongingness condition: Participants primed with a state-like relational self, belongingness, and a low-level construal were more ingroup-biased (M = 1.03, SD = 3.07) than those primed with a state-like independent self, belongingness, and a low-level construal (M = -1.59, SD = 3.37), $F(1, 173) = 6.35$, $p < .02$, $\eta_p^2 = .04$. No other mean-comparisons were significant.

MD/MIP (vs. MJP) allocation. Next we examined ingroup bias on the MD/MIP (vs. MJP) allocation—in which the motive for ingroup bias is to maximize intergroup difference and ingroup gain simultaneously, while sacrificing joint gain. Neither the main effect of the self nor the construal level was significant. The main effect of the belongingness prime, however, was significant, $F(1, 178) = 5.10$, $p < .03$, $\eta_p^2 = .03$: Participants under the belongingness condition were more ingroup-biased in favor of maximizing ingroup gain and the difference between groups' gains while sacrificing joint gain (M = 2.95, SD = 7.63) than those under the baseline condition (M = .33, SD = 7.50). This effect was qualified by the self x belongingness 2-way interaction, $F(1, 178) = 7.57$, $p < .01$, $\eta_p^2 = .04$. Subsequent planned comparisons showed that as predicted, participants primed with a state-like relational self were more ingroup-biased under the belongingness condition (M = 4.27, SD = 7.60) than the baseline condition (M = -1.22, SD = 7.93), $F(1, 178) = 12.88$, $p < .001$, $\eta_p^2 = .07$. Participants primed with a state-like independent self showed similar levels of ingroup bias under the belongingness and baseline conditions, $F < 1$. Also, relationals under the baseline condition were less ingroup-biased (M = -1.22, SD = 7.93) than independents under the baseline condition (M = 1.98, SD = 6.72), $F(1, 178) = 4.90$, $p < .03$, $\eta_p^2 = .03$. In contrast, relationals under the belongingness condition were directionally more ingroup-biased (M = 4.27, SD = 7.60) than independents under the belongingness condition (M = 1.60, SD = 7.50), $F(1, 178) = 2.83$, $p < .10$, $\eta_p^2 = .02$. No other effects were significant.

MD/MIP/MJP allocation. Finally, we examined ingroup bias on the MD/MIP/MJP

allocation—in which the motive for ingroup bias is to maximize intergroup difference, ingroup gain, and joint gain simultaneously. Consistent with the MD (vs. MIP/MJP) allocation, the main effect of construal level was significant, $F(1, 177) = 4.65$, $p < .04$, $\eta_p^2 = .03$: Participants primed with a high-level construal were more likely to maximize the difference between groups' gains while also maximizing ingroup gain and joint gain ($M = 2.98$, $SD = 5.03$) than those primed with a low-level construal ($M = 1.36$, $SD = 5.39$). For this allocation, participants distributed resources based on fairness. In this regard, the significant main effect of construal level resonates with Luguri et al. (2012), who demonstrated that high-level abstract thinking generated greater concern about fairness than low-level concrete thinking. No other effects were significant.

Summary. Our findings demonstrated that construal level had a direct effect on ingroup bias when participants allocated resources either for the purpose of "beating" the other group (while forgoing ingroup benefit and joint benefit: MD vs. MIP/MJP allocations) or maximizing ingroup benefit, joint benefit and the difference between groups' benefit simultaneously (MD/MIP/MJP allocations). When participants had to choose between maximizing ingroup benefit versus joint benefit (MD/MIP vs. MJP allocations), construal level had no effect on ingroup bias. Our hypothesis, however, was supported only when relationals allocated resources for the purpose of "beating" the other group, although doing so sacrificed ingroup gain and joint gain. This pattern of ingroup bias is consistent with that of our previous experiments—when participants selected one leader of a student group from either the ingroup (same dorm) or the outgroup (different dorm) (Experiment 2), and when participants chose either the ingroup (same major) or the outgroup (different major) as a group worthy of higher status (Experiment 3). Thus, our hypothesis appears to be confirmed for participants whose primary motive for ingroup bias is to "win" versus the other group, or to increase intergroup distinction.

Alternative explanations. Our Korean participants had positive attitudes toward the older

generation (M = 4.26, SD = 1.22), $t(205) = 3.02$, $p < .01$, and endorsed the value of hierarchy and power (M = 4.84, SD = 1.21), $t(206) = 9.97$, $p < .001$ (one-sample t-tests comparing the mean with the midpoint 4), as predicted. Consistent with prior research (Smith & Trope, 2006), Korean participants primed with a high-level construal were directionally more likely to endorse the value of hierarchy and power (M = 4.97, SD = 1.12) than those primed with a low-level construal (M = 4.70, SD = 1.28), $t(205) = 1.59$, $p = .11$. These variables, however, had no relationship with ingroup bias, as measured for the three different allocations in this study. These findings rule out the alternate accounts and provide strong causal evidence that belongingness is the mechanism underlying our findings.

General Discussion

The purpose of this paper was to untangle psychological processes related to construal level and ingroup bias, thus clarifying a relationship that has eluded prior research. To this aim, the present research uniquely identified a boundary condition (relational self) and a mechanism (belongingness) for the construal level-ingroup bias link. High-level mental construals are more likely to highlight the desirability of a fundamental human motivation—belongingness—than low-level mental construals. Moreover, because belongingness is a key determinant of ingroup bias for the relational self, high- (vs. low-) level construals are more likely to trigger ingroup bias for relationals. Data from four experiments—both in Korea and Australia—provided strong convergent, pan-cultural causal evidence for our hypotheses. The current research makes multiple novel contributions to the construal level literature, belonging theory, and the relational self perspective on intergroup research.

Theoretical Contributions

The current research reconciles the primary quandary in the emerging research on construal level and group judgment. Construal level theory contends that the evaluation of the socially close other (ingroup) should be more positive under low- than high-level construals; whereas the

evaluation of the socially distant other (outgroup) should be more positive under high- than low-level construals (Trope & Liberman, 2003). Then, high- (vs. low-) level construals should generate less ingroup bias, because people may have a more positive view of the outgroup than the ingroup under high-level construals and a more positive view of the ingroup than the outgroup under low-level construals. Our data suggest that this predicted pattern is reversed for those primed with a state-like relational self: For relationals who care deeply about social bonds with ingroup members (Brewer & Chen, 2007; Lee et al., 2012), their sense of belongingness appears to be a more important determinant of their ingroup bias than their perception of social distance. In sum, the present research revealed a boundary condition (relational self) and the mechanism (belongingness) that clarified the to-date elusive relationship between construal level and ingroup bias.

Our work reveals a novel relationship between construal level and belongingness. To this point, construal level and belongingness have remained in separate literatures. By demonstrating a new consequence of construal level (belongingness) and a new antecedent of belongingness (high-level construals), this paper offers new insights and stimulates new inquiries that expand the boundaries of both the construal level and belonging literatures. The present research illustrates that the construal level literature is useful for understanding the intrapersonal genesis of social acceptance. For example, prior research has focused on dyadic interpersonal interaction processes through which people feel accepted by a specific relationship partner (e.g., Murray, Holmes, & Collins, 2006). Our work uniquely demonstrated that mere activation of a high-level construal, irrespective of social concepts or social events, enhanced people's state belongingness. These results suggest that not only interpersonal but also intrapersonal social-cognitive processes can activate the perception of acceptance, even without a specific partner—by thinking about events or actions in terms of high-level representations. Of course, frequent and stable interactions with the same relationship partner form a critical foundation for belongingness (Baumeister & Leary, 1995). If

someone is alone or not in a relationship for a significant period of time, however, his or her thinking about high-level representations of even non-social objects is likely to help the person feel socially included, albeit momentarily.

This paper predicts intergroup cognition and behavior using a novel explanation based on construal level; in doing so, our work makes unique contributions to intergroup research generally and the relational self perspective on intergroup relations specifically. Although the relational self affects not only interpersonal but also group-related cognition (Brewer & Chen, 2007), it has been mostly researched in the context of interpersonal relationships, and intergroup research has paid little attention to the role of the relational self in group relations. Empirical studies on the relational self and ingroup bias have demonstrated that relationals tend to have a narrower (vs. broader, superordinate) categorization of an ingroup and thus show high levels of ingroup bias (Lee et al., 2012). Thus, it is important to identify the conditions under which relationals become more or less ingroup-biased. The current research adds to the literature by elucidating for the first time that a high-level construal is a key trigger for relationals' ingroup bias, and that belongingness accounts for this relationship. Relationals' motive for ingroup bias appears to vary. Specifically, Experiment 4 revealed that relationals were more ingroup-biased under a high- (vs. low-) level construal, for the purpose of maximizing the difference between groups' gains, while forgoing ingroup and joint gains. Recent research (Lee et al., 2012), however, found that relationals were more ingroup-biased under a condition of intergroup competition (vs. cooperation), for the purpose of maximizing the difference between groups' gains and ingroup gain simultaneously, while sacrificing joint gain. To the extent that a high- (vs. low-) level construal had a direct effect on ingroup bias aimed at "beating" the other group while giving up maximizing ingroup benefit and joint benefit (Experiment 4), the tendency for relationals to be more ingroup-biased under high- (vs. low-) level construals for the purpose of "winning" over the other group appears to result primarily from the construal level effect, not the

relational self effect. In sum, our work elucidated novel conditions (simple intrapersonal mental representations) under which relationals are more or less ingroup-biased, thus adding to the scant literature on the relational self perspective in intergroup relations.

Limitations and Future Directions

Our sample is mainly young adults. Age (in term of experience and maturity) may increase the weight of high- (vs. low-) level construals. That is, the capacity to process high-level mental construals may be innate but may also develop throughout one's life span, as individuals are better able to see a common thread across multiple experiences over time. Thus, one plausible conjecture is that our sample is skewed toward those who hold more low- than high-level mental construals. Because we did not measure participants' mental construal capability but manipulated construal across all experiments, we cannot rule out this possible skew in our data. Even so, however, the significant finding that state belongingness and ingroup bias were observed under high- (vs. low-) level construals in our data attest to the robustness of our findings. Future research should test our model with participants reflecting a wider age range—to garner further evidence (or boundary conditions) for and increase the generalizability of our findings.

This paper focused on the relational self and the independent self. These two selves, however, do not compose an exhaustive list of self-concepts individuals may hold (Sedikides & Brewer, 2001). The relational self is one form of the broader category of the interdependent self (Brewer & Chen, 2007). There is another form of the interdependent self: the collective self. Theoretical and empirical distinctions exist between relational and collective selves in terms of self-representation, values, and beliefs (Brewer & Chen, 2007; Lee et al., 2012). Collective selves place less value on interpersonal relationships and belongingness than relational selves do. Instead, categorical group distinctiveness is a more important determinant of collectives' group identity than social bonds with members. High- (vs. low-) level construals might further accentuate collectives' categorical intergroup distinctions

and increase ingroup bias, as for relationals—as construal level had a direct effect on increasing ingroup bias aimed at maximizing the difference between groups or to maximize such intergroup differences, ingroup benefit, and joint benefit simultaneously (Experiment 4). Future research might elucidate the parallel or differential effects of the relational versus collective self on ingroup bias under high- versus low-level construals.

A future study should also examine the effect of construal level on belongingness in different types of relationships. The current research demonstrated that a high- (vs. low-) level construal enhanced state belongingness. But Williams and Bargh (2008) showed that high-level spatial distance is related to less emotional bonds with one's family and significant other (Study 4). Williams and Bargh's measure of emotional attachment was related to how strongly participants feel about their bonds with their family. Dissimilarly, our measure of belongingness was about how much participants felt welcomed and included in general, without reference to family, significant other, or a specific partner. Because a strong bond in one relationship satiates the need to belong in other relationships (Baumeister & Leary, 1995), less emotional bonds with family and significant other under high-level spatial distance (Williams & Bargh, 2008) appears to be aligned with our data that belongingness with general others is greater under a high- (vs. low-) level construal. Future research should investigate specific types of social relationships in which construal level relates to belongingness and the underlying mechanisms.

Practical Implications

The current research suggests a convenient way to enhance people's feeling of social connection, inclusion, or acceptance. Although our ancestors lived in a community setting, as their modern contemporaries we live less in true communities and more in socially isolating societies, separated from others by socioeconomic, technology-related, and other factors. However, the need to belong is a pervasive fundamental human motivation related directly to human survival, and thus it

must be satisfied for optimal health and functioning (Baumeister & Leary, 1995). This paper highlights that people can satisfy their need to belong by intentionally thinking about why they do what they do—even thinking about something unrelated to social relationships should suffice. Although such an intervention is likely to be ephemeral, we believe that high-level mental representations in our everyday lives can be an efficient and effective way to facilitate a sense of human connection even amid social isolation.

Cross-group collaboration is important for social and organizational innovation. As such, intergenerational understanding and cooperation should facilitate societal development. As we suggested in our introduction, human beings tend to view the group or generation to which they belong as having higher status and prestige and deserving more resources than other groups or generations. This ingroup bias is pervasive, and it discourages the attitudes and resource allocations that benefit the common good and thus hamper cross-group collaboration or intergenerational cooperation. Moreover, cultural diversity is ever increasing in societies and organizations worldwide. Our work highlights that distinct self-concept may play a more important role in intergroup relations than cultural diversity does. Specifically, policy makers, leaders, and managers may be well-served focusing less on people's cultural origins than on their self-perceptions. Likewise, interventions for better intergroup or intergenerational cooperation may not be necessary for people with strong independent orientations. Instead, policy makers, leaders, and managers can facilitate intergroup relations by leading people with strong relational orientations (regardless of cultural background) to think about low-level specific ways—rather than high-level purposes or visions—to execute tasks both related and unrelated to groups. For example, instructing relationals to focus more on specific ways for how the mergers and acquisitions of two separate groups can be implemented may be more effective than having them think about abstract reasons for why the two groups need to be merged in the first place. Conventional wisdom is that focusing on visions or higher-level purposes is a

generally good strategy for motivating people. Our findings, however, suggest that doing so can exacerbate relationals' ingroup bias: The more relationals focus on the purpose, vision, or the bigger picture of what they do, the more ingroup-biased they are likely to be, impeding intergroup cooperation.

Conclusion

When thinking of forests rather than trees, people are more likely to feel socially accepted. For those with a more relational self, however, considering the forest will bias them in favor of their ingroup. But they can overcome this ingroup bias by intentionally considering the tree. We hope that our research makes people more aware of these surprising consequences of mental representations and use them to facilitate human and intergroup relations.

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